THE ARTICLE:

Philippines is a Rice Deficit Country : The Challenges, Policy Innovations, and Strategic Interventions

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Abstract

Towards a Sustainable and Self-Sufficient Rice for the Filipinos !

The Philippines has long faced challenges in achieving rice self-sufficiency, primarily due to limited agricultural land, declining yields, and growing demand driven by population increase. Despite being an agricultural country, various economic and policy-related factors hinder local rice production, leading to reliance on imports. Key contributing issues include the Rice Tariffication Law, price manipulation by rice cartels, weak land-use policies, and low farmer motivation due to unstable farmgate prices.

Factors affecting rice yield and supply were analyzed. The implications of import dependency, land land conversion issues were examined. A core policy recommendation is the institutionalization of a minimum farm gate price of P25/kg, ensuring farmers earn at least P50,000 per hectare per cropping season to incentivize them to continuously plant rice and increase yield.

Additionally, the paper highlights best agricultural practices that farmers can adopt and presents multi-sectoral policy strategies aimed at enhancing food security, production efficiency, and market fairness. The role of rice Cartels on palay price manipulation ; the Rice Tariffication Law labelled as the mega typhoon hitting all rice farmers , and Executive Order No. 62 (EO 62) and their interrelated effects must be addressed

Golden Rice presents risks to rice yields, food security, and farmer livelihoods in the Philippines while addressing VAD is important. Research on metabolic engineering suggests that 10 to 15 grams of glucose are required to produce 1 gram of beta-carotene, limiting the energy available for rice growth and yield.

Through strategic policy interventions, improved farming techniques, and better governance, the Philippines can move towards self-sufficiency and long-term agricultural sustainability.

1.0 Brief Background

Rice GVA is about P430 billion or 1.8% of GDP(2023).Over 3 million rice farmers ,6 out of 10 of the 5.0million farmers are rice farmers . The rice industry generate 460Mdays=P230 billion (@P500/day), there is 1 full time worker per 3 haor 860,000 workers full time workers . It provides indirect employment to Food business, drivers (jeepneys, tricycles, truck drivers, etc.; Support the livestock/aquaculture industry. Rice bran/binlid– about 3 million tons.

The Total employment in the rice industry (direct + indirect) is about (2.4 million+6 million) 8.4 million . This translates to about 2 million (36% of Phil.Population).. Four (4) out 10 Filipinos are befitting from the rice industry

Rice remains the staple food in the Philippines, making its availability and affordability critical to food security. However, the country struggles to meet domestic rice consumption needs due to the following factors:

1.1.Limited agricultural land, worsened by urbanization and land conversion. For comparison ; Thailand has 11.19 Mha , Vietnam: 7.12 Mha ,Myanmar: 6.46 Mha while Philippines has only 2.68 Mha. Thailand has 4.17 times more land, Vietnam 2.7 times more land and Myanmar 2.41 times more rice lands than the Philippines . Population ; Thailand 71.7 million ,Vietnam 99.5 million , Myanmar: 54.1 million and Philippines 117million

1.2. Low farm productivity; Vietnam =6.16 t/ha ,China=7.2 t/ha , Thailand 4.5 – 4.8 t/ha ,
Philippines 4.2 t/ha. Vietnam and Thailand are benefiting Mekong river for their rice irrigation needs

1.3.High population growth; Thailand -0.07% (slight population decline), Vietnam: 0.6% (moderate growth), Myanmar: 0.64% (steady increase) ,China: -0.23% (population shrinking), Philippines 1.53 % (high growth).

1.3 .a) High population growth accelerates urban expansion, leading to congested cities and increased demand for housing, transportation, and infrastructure; in turn, leads to massive land conversion, reducing agricultural areas in favor of urban development; shrinking farmlands due to land conversion reduce prime rice lands which is now the major threat to food security for the future generation as fully explained in *Annex A* . And more people require more schools, and healthcare, which demands higher government spending. Many experts recommend that countries allocate at least 4-6% of GDP to education for sustainable development. But for the Philippines, government expenditure on education was 3.62% of GDP in 2023. The education budget for 2025 in the Philippines is ₱1.055 trillion, which is the largest allocation in the national budget. However, as a percentage of GDP, education spending has remained around 3.62%, similar to previous years (https://tradingeconomics.com/philippines/public-spending-on-education-total-percent-of-gdp-wb-data.html)

1.3, b) High per capita rice consumption .Why percapita consumption increased from 90 kg in the 90s, it zoomed up to 119 kg in the 2020s. This can be attributed to at least 7 factors, namely: 1)Over the years, Filipinos have increasingly relied on rice as their primary staple, replacing other carbohydrate sources like corn, cassava, and sweet potatoes, 2) corn-eating provinces have shifted towards rice consumption due to changing food preferences and availability, 3) Urbanization has reduced access to alternative staples, making rice the most convenient and widely available food source, 4) rice remained relatively affordable compared to other staple foods, making it the preferred choice for low-income households 5) there was overestimation in rice requirement by using Supply & Utilization Accounts (SUA) due to its outdated parameters , 6) Other factors such as milling recovery rates, wastage estimates, and seedling rates may have contributed to higher reported consumption or demand , 7) Rice is deeply embedded in Filipino culture, with many households consuming rice in every meal.

1.4. Market distortions, including cartel-driven price manipulations that depress farmgate prices.

As a result, the Philippines remains heavily dependent on imports, posing significant vulnerabilities to global trade fluctuations and supply disruptions. Unless decisive policy actions are implemented, the country risks long-term instability in rice production and food security.

This paper examined the factors affecting rice yield and supply, the implications of import dependency, land conversion issues, and strategies to enhance production and policy recommendations to address low yields, and to achieve rice self sufficiency in the long run.

2.0. Factors Affecting Rice Supply

Despite the high demand for rice, Filipino farmers struggle with profitability and sustainability, discouraging them from increasing yield. Several structural and interrelated issues contribute to this trend:

2.1.Unstable Farmgate Prices .Middlemen and rice cartels control pricing, often artificially depressing palay prices, forcing farmers to sell at a lost. Lack of government-regulated price stabilization mechanisms exacerbates market inefficiencies.

2.2 Weak Government Support & Lack of Farmer Incentives: Unlike neighboring rice-producing countries, Filipino farmers receive minimal subsidies, making rice farming financially unviable. Farmers have Limited access to high-quality seeds, particularly hybrid seed(only inbred seeds

are included in the RCEP of RTL for free distribution to rice farmers).Inadequate level of fertilizer application, and mechanization and adequate irrigation jointly restricts yield.

2.3 Land selling trend among farmers and irretrievable land use conversion : Due to financial instability, many farmers opt to sell their rice lands instead of continuing production, leading to a gradual decline in cultivated areas. Under the Local Government Code of 1991 (Republic Act No. 7160) section 20, it grants local government units (LGUs) the authority to reclassify agricultural lands into non-agricultural uses led to unchecked land reclassification by local officials . Furthermore, the non –passage of the national land use act for the last 37 years (Senate Bill No. 898 filed on July 26, 2022) exacerbates further agricultural land loss. We have lost about 0.52 Mha of prime rice lands. Land conversion is now seen as the major threat to our food security surpassing Climate change. *This is discussed further in Annex A.*

3.0 Rice Cartels Price Manipulation : Dis-incentivize the Rice Farmers

Rice cartels exploit farmers and consumers, creating artificial price fluctuations that benefit traders while harming the agricultural sector. Without strong government intervention, this cycle will continue, threatening food security and farmer livelihoods. Rice cartels exploit farmers through loans & price manipulation. They are as follows : Predatory lending practices ;. Artificial price suppression during harvest. Hoarding & controlled supply; and Sudden price surges after harvest

Farmers are encountering severe financial losses due to low farm gate prices. Their debt accumulate forcing some of them to sell their lands, or reduced their investment in farming, leading to lower yields and potential rice shortages.

Consumers suffer high retail rice prices, despite low farm gate prices. The Limited access to affordable rice worsens food security.

Dependence on imported rice, further destabilizing the local rice industry. Without effective regulations and oversight, cartels will continue to exploit both farmers and consumers.

4.0 The Rice Tariffication Law : The Mega Typhoon hitting all Rice Farmers

This law was intended to stabilize supply through imports, but its unintended consequence was the oversaturation of the domestic market with foreign rice. Last year, 2024, the Philippines was the World largest rice importer at 4.7 million tons of rice. Local farmers struggle to compete, as imported rice undercuts domestic palay prices, and often times , imported rice arrives during harvest time reducing further their profitability. *More expanded discussion is appended in Appendix B*

5.0 Executive Order No. 62 (EO 62) and its Impacts

EO 62, issued in June 2024, significantly reduced the tariff on imported rice from 35% to 15% (https://portcalls.com/marcos-issues-eo-62-modifying-import-tariffs-including-on-rice/).. The policy aimed to augment supply, stabilize prices, and temper inflationary pressures.. However, while lower tariffs was expected to lower the price of rice from 6 to 7 pesos. However, it did not happen. . This effort was meant to ensure fair pricing and prevent market manipulation, but local farmers continued to struggle with depressed palay prices due to the influx of cheaper imported rice.

Add to the farmers woe was the Excessive Rice Imports . In 2024, the Philippines imported 4.7 million metric tons (MMT) of rice, marking an all-time high(<u>https://www.pna.gov.ph/articles/1240111</u>) .What the government say ..*the surge in imports was largely driven by natural calamities, including El Niño, La Niña, and multiple typhoons, which severely impacted local palay production*

We reviewed their calculation, the reason for the voluminous import is because , they increased the per capita consumption from merely 110 kg to 154 kg per capita per year in estimating rice requirements. While these imports ensured a stable rice supply, they also exacerbated the decline in farm gate prices of palay, as local farmers struggled to compete with the imported rice. The reduced tariff under EO 62 further encouraged importers to bring in more rice, leading to an oversupply that depressed palay prices and reduced farmers' income.

The excessive imports and tariff reductions had several carryover effects:

Depressed Farmgate Prices – The average farmgate price of palay dropped significantly due to the oversupply of imported rice. Farmers faced difficulties in selling their harvest at profitable rates.

Market Dependence on Imports – The reliance on imported rice weakened domestic production incentives, discouraging farmers from expanding cultivation. The depressed price motivated the to sell their lands triggering massive land use coversion as discussed in Annex A.

While EO 62 aimed to stabilize rice prices, its long-term effects could undermine local rice production, making the Philippines increasingly dependent on imports. It must be terminated now instead of having to wait till 2028.

6.0 The Hidden Costs of Rice Importation: The Case of Importing 4.7 Million Tons

While rice importation prevents shortages, its economic consequences must be properly addressed to ensure sustainable local production and rural livelihood protection. The Philippine government must take proactive steps to regulate imports, support farmers, and stabilize market prices to avoid long-term dependency on foreign rice suppliers. Excessive rice importation highlights a major economic concern—the loss of rural employment and income circulation in communities dependent on rice farming and milling. It has the hidden costs :

The large-scale importation of 4.7 million metric tons (MMT) of rice in 2024 resulted in an estimated 145.27 billion pesos in lost income across the farming and milling sectors. This displacement primarily affected:

Rice Farmers – 229.27 million workdays lost, affecting 1.43 million farm workers and indirectly impacting 7.16 million people. Estimated wage losses amounted to 114.63 billion pesos.

Rice Mill Workers – 18.92 million workdays lost, affecting 118,250 mill workers and indirectly impacting 591,000 people. Lost income for mill workers and transport providers totaled 30.64 billion pesos.

The combined job losses and reduced income circulation in rural communities significantly weakened economic activity where rice is grown, harvested, milled, and distributed.

Despite the oversupply of rice, retail prices remain higher than expected. The basic principle of supply and demand suggests that increased supply should lower prices, but:

Rice traders and importers exercise market control, limiting price reductions.

Farmers lack negotiating power, forcing them to sell palay at low prices due to lack of storage facilities and debt obligations to lenders.

7.0. Land Use Policy Challenges

Local government officials reclassify agricultural lands, converting them into residential and commercial properties, further worsening rice shortages. Key concerns include: Unregulated land conversions, shrinking farmland availability,Lack of enforcement of sustainable agricultural land protection policies.

The National Land Use Act, which has remained dormant for decades, leaving farmland conservation unaddressed. *More discussions in Annex A Rice Land Conversion and the Quest for Food Security in the Philippines*

8.0 . Golden Rice and the Philippines' Food Security Goals

While addressing VAD is important, Golden Rice presents risks to rice yields, food security, and farmer livelihoods in the Philippines

Golden Rice has been promoted as a solution to Vitamin A deficiency (VAD), but concerns remain about its impact on rice production and food security in the Philippines. While addressing malnutrition is a crucial goal, the introduction of genetically modified (GM) rice may pose significant risks to rice yield, biodiversity, and farmers' livelihoods, ultimately affecting the nation's pursuit of rice self-sufficiency. A more sustainable approach would involve is integrating or onsite planting of beta carotene rich vegetables (squash, malungay, carrots, pechay, bell pepper, kamote, cassava leaves, lubi lubi, mustard, saluyot, and many more), improving agricultural practices, and enhancing food distribution systems rather than relying on genetically modified rice that compromises yield stability.

But what the proponents claim..."The preponderance of evidence about the safety of GMOs from eminent scientific bodies and government regulatory agencies globally gives us the confidence to assure the Filipino public that we can safely plant and consume Golden Rice"

The proponents failed to see the following :

8.1.Metabolic Energy Diversion. Beta-carotene biosynthesis in Golden Rice redirects glucose and other resources away from starch production, potentially reducing overall grain productivity. Research on metabolic engineering suggests that 10 to 15 grams of glucose are required to produce 1 gram of beta-carotene, limiting the energy available for rice growth and yield.

8.2.Negative Agronomic Effects. Studies indicate that genetic modifications in Golden Rice can disrupt normal plant functions, leading to: Lower chlorophyll content, reducing photosynthesis efficiency. Stunted growth, affecting plant biomass and resilience. This reduced yield will cause economic losses for farmers who depend on high-productivity crops.

8.3. *Increased Susceptibility to Pests.* Golden Rice may be more vulnerable to pest infestations due to resource partitioning: The energy spent on beta-carotene production leaves fewer resources for synthesizing natural pest-resistant compounds like alkaloids and flavonoids. That weaker plants are more prone to environmental stress, increasing reliance on chemical pesticides.

*8.4.Risk of Genetic Contamination.*Golden Rice introduces new genetic traits that could spread to traditional rice varieties and heirloom rice , threatening the biodiversity of Philippine rice crops. Past cases of genetic contamination in GM rice have led to market restrictions and financial losses for farmers.

8.5. *Misalignment with Food Security Goals*. The Philippines aims for rice self-sufficiency, prioritizing high-yield, resilient rice varieties. Golden Rice's lower productivity and genetic risks conflict with the national goal of securing stable, high-output rice production

References:Pathway Engineering for Beta-Carotene and Carotenoid Biosynthesis <u>https://link.springer.com/protocol/10.1007/978-1-0716-1414-3_13</u>Golden Rice impact on rice yields and food security .<u>https://allianceforscience.org/blog/2023/10/from-potential-to-</u> <u>progress-latest-developments-in-golden-rice-deployment-in-the-philippines/</u>Golden rice is a Philippine lifesaver.By Eufemio T. Rasco <u>https://www.philrice.gov.ph/golden-rice-is-a-philippine-life-saver/</u>

9.0. The Urgent need to address low farmer motivation :Establishing a Minimum Palay Floor Price

The situation : farmers children are leaving the farm, farmers are aging, lesser farmworkersfarmers can not pay competitive wage @ P500/day, due to low priced palay, farmers are not motivate or unhappy to increase rice yield. How shall we address this ? Who will farm for us consumers ?

We should device support systems and motivation for farmers to continue rice cultivation, discourage selling lands for farmland conversion for commercial purposes.

A floor price of ₱25 per kilogram so farmers would earn a net income of ₱50,000 per hectare per crop, ensure long-term economic stability in the rice sector.

For Effective Palay Price Support, the following must be done :

1. Strengthen government procurement by : Increasing NFA's buying capacity to purchase more palay at ₱25 per kilogram, securing at least 2.4 million metric tons during wet season harvest (NFA, 2025).Expand buffer stock to at least 70 days, improving rice supply stability (NEDA, 2025).

Decentralize buying stations, reducing transportation costs for farmers and increasing accessibility to government procurement programs (DA, 2025).

2. Price Stabilization Measures : Legislate a minimum farm gate price to protect farmers from price gouging (Congress, 2025).

Monitor rice importation policies to prevent excessive foreign rice inflow that artificially lowers palay prices (Bureau of Customs, 2025).

Facilitate direct farmer-to-market sales, minimizing reliance on middlemen and improving profitability (PhilRice, 2024).

3. Financial Support & Compensation

Direct cash assistance programs should compensate farmers for excessively low palay prices experienced in the past 5–6 cropping cycles (DA, 2025).

Expanded subsidies for fertilizers, seeds, and equipment must match the scale of lost earnings due to underpricing (NEDA, 2025).

Philippines' agricultural insurance system provides only partial coverage, leaving farmers vulnerable to financial instability. It must must be reformed to provide full compensation for crop losses, ensuring farmers remain financially stable and food security is protected. By expanding coverage, increasing subsidies, and streamlining processes, the government can create a resilient agricultural sector, safeguarding farmers and ensuring national food security.

4. Sustainable Farming & Yield Enhancement. Target 2.0 million hectares of hybrid rice harvest to improve productivity (PhilRice, 2024, <u>https://business.inquirer.net/491158/how-hybrid-rice-can-feed-the-philippines</u>).

Invest in modern irrigation systems, improving efficiency and lowering production costs (Department of Water Resources, 2025).

Promote precision agriculture techniques, optimizing fertilizer use and soil health (FAO, 2023).

Retrain agricultural technicians on agroecology-based rice farming to educate farmers in sustainable practices (DA, 2025).

Will they do these if they are not guaranteed with profitable price at harvest ? Below is the discussion on the rationale for floor price policy.

9.1 The Rationale and benefits of the Floor Price Policy

Farmers income must be just and fair. They must be assured of just and fair and stable Farm Income. Guarantees financial sustainability for farmers and market protection shields farmer from the rice cartel-driven price fluctuations. It will also mean stopping Land Selling for land use conversion and encourages farmers to continue and increase rice yield form 4.0 ton average to a about 5.0 tons/ha and above making us self sufficient in rice.

We are in the view that the main impediment to increasing rice yield is the very low farm gate price of palay at P15.16 /kg which nose dived further to P11-12/kg when President Marcos announced that KADIWA stores shall start selling rice at P20/kg. It costs to produce palay at P17-18/kg. Who will continue growing rice at a lost ? All over the Philippines , many farmer are thinking on what crops they will grow on their farm ? Other farmers I talked to : one said , he will grow rice for his family only , Another farmer said, I will select the portion of my field which is still fertile . magsabog tanim na lang ako. I will just do direct seeding , its less expensive, cheap crop establishments and there are effective pre-and post emergent herbicides to suppress weeds. Another, I will just leave my farm idle. Let the weeds grow instead of rice. I will sell the land if the price is right to enjoy my remaining life. I am old.

9.2.Implementation Strategies

The Implementation shall include the following strategies :

a.Strengthening NFA's role in palay procurement ,Providing subsidies for production inputs to maintain the price floor

b.Regulating private traders to prevent market distortions.

c.Crafting a new law on Rice Industry Sustainable Development Act (RISDA) of 2025 which will promote the sustainable development of the rice industry to ensure food security and self-sufficiency in the country.

This Act aims to: a) Strengthen the country's rice industry through modernized, sustainable, and climate-resilient agricultural practices; b) Reduce reliance on rice imports and enhance local production capacity; c) Provide financial, technical, and infrastructural support to rice farmers; d) Promote research and development to improve rice yield, quality, and sustainability; e) Establish mechanisms for rice price stability and fair market competition; and f) Ensure environmental sustainability in rice farming through responsible land and water management.

9.3. Motivate farmers to adopt Best Practices for Increasing Rice Yield

Farmers will be motivated to adopt complementary agricultural best practices to improve productivity if *they are gaining rather than losing, the game changer ! Make rice farming profitable ..*

They adopt Modern Farming Techniques :Improved Seed Selection & Planting,Use of Hybrid seeds and climate-resilient rice varieties;Employ optimal planting density to maximize land use,Efficient Water Management.Utilize alternate wetting and drying (AWD) irrigation for water efficiency.

Soil Fertility & Nutrient Management.onduct soil testing and apply balanced fertilization.

Integrated Pest & Disease Control.Implement biological pest management combined with proper crop rotation.

Mechanization & Post-Harvest Efficiency. Use mechanized harvesters to reduce manual labor and losses.

Improve grain drying and storage facilities to maintain quality.

By adopting these techniques, farmers can increase yields, reduce production costs, and improve overall profitability. They do not need *ayuda- an added salt to injury !* <u>https://opinion.inquirer.net/134410/rice-farmers-not-beggars-but-give-them-humane-just-prices-for-their-produce</u>

Conclusion

The Philippines'rice deficit stems from interlinked challenges limited agricultural land due to land use conversion, low farm productivity, market distortions, and weak land-use policies. The reliance on rice imports underscores the country's vulnerability to global rice trade fluctuations, which threaten national food security. Despite being an agricultural nation, Filipino farmers face diminishing incentives to increase yield due to unstable prices, competition from imports, cartel manipulation, and policy inconsistencies. Without decisive and comprehensive interventions, the country will continue to struggle with self-sufficiency and long-term food security risks.

Anchoring our food security to importation is the main threat to food shortage. And rice shortage is attributed mainly to land use conversion, in turn, was due to Sec.20 of the Local government code and the lack of land policy due to the 37 years of comatose of the national land use act. Furthermore, huge importation means rural employment deprivation and less money circulating in rice based rural economies.

Addressing these challenges requires a multi-pronged approach that integrates economic, technological, environmental, and policy-driven solutions. Institutionalizing a minimum palay floor price of P25/kg, strengthening market regulation to curb smuggling and cartel-driven price manipulations, modernizing agricultural practice. The Philippines can achieve rice self-sufficiency and ensure long-term food security by implementing the reforms as outline below :

Policy Recommendations

To ensure long-term sustainability, the following strategies should be adopted:

1.Implement a Minimum Floor Price . Set P25/kg as the minimum palay price to ensure farmer profitability. By all means , no excessive import...STOP/ Arrest smugglers

2. Strengthen government rice procurement programs for 70- days buffer stock (procurement budget =P84 B @ P25/kg palay). This means RTL must be ammende or asbolished by enacting a new law Rice Industry Sustainable Development Act (RISDA). A draft bill is appended in Appendix1.

Reorganize and pass a law re-nationalizing the Dept. of Agriculture into Dept. of Agriculture and Farmers' Welfare.

3.Modernize rice-based Agriculture : invest on R/D (hybrid seed, organic /biofertilizer. pesticides); Our gross expenses on Research and development is too low at 0.3 while UNESCO prescribes GERD= 1.0%. Invest in irrigation expansion and STOP rice land conversion. Improve further our rice land mechanization across production and post-production stages or value chain.

Provide adequate financial and technical support to rice farmers (agroecology-based rice farming systems). Upgrade the Philippine crop insurance by : xxpand Insurance Coverage – Ensure full compensation for crop losses, similar to the U.S. and EU models and other countries; Increase Government Subsidies and financial support to farmers to encourage insurance enrollment; Streamline Application & Payout Processes and reducing bureaucratic delays to ensure timely financial assistance

4. Regulate Rice Cartels & Strengthen Market Oversight :Enforce anti-cartel regulations to prevent price manipulation and or gouging ;Implement real-time price monitoring systems.

5.Enact Sustainable Land-Use Policies:Pass and enforce the National Land Use Act to prevent unregulated farmland conversions.

6.Promotion and adoption by farmers of Golden rice while addressing VAD is important, it is negative to the goal of increasing rice yields, presents risks to food security, and farmer livelihoods in the Philippines.

Annex A. Rice Land Conversion and the Quest for Food Security in the Philippines

The rapid and massive conversion of agricultural lands—particularly prime rice lands—into residential, commercial, and industrial developments is now the main threat to the our food security. An estimated 520,000 hectares of rice lands have been converted to non-agricultural uses. AT 5.0 tons/ha per crop or 10ns per ha per since all these lands are fully irrigated (communal, NIA, use of water pumps), these areas can give 5.2 million tons of palay or umilled rice equivalent to 3.32 Mtons of milled rice at 64% milling recovery. Had these areas remain, we are still rice surplus or rice exporting and not rice importing country (current yield at 12.8 Mt +3.32 Mt = 16.12 Mt).

The enactment of RA 7160 (Local Government Code of 1991 34 years ago wherein under section 20 grants the local government units (LGUs) the authority to reclassify agricultural lands into non-agricultural uses led to unchecked land reclassification by local officials . Furthermore, the non –passage of the national land use act for the last 37 years (Senate Bill No. 898 filed on July 26, 2022) jointly exacerbates further the lost of prime and irrigated rice lands .

If land conversion continues unchecked, the Philippines may become more dependent on rice imports, exposing the country to global price fluctuations. Protecting agricultural lands through stricter policies could help maintain self-sufficiency and reduce reliance on foreign rice suppliers. A report by Fair Finance Asia Philippines highlights that land conversion is shrinking farmers' lands is threatening our food security leading to food vurnerability (https://philippines.fairfinanceasia.org/2021/09/21/when-big-businesses-and-farmers-

interests-collide-rampant-land-conversion-is-shrinking-farmers-lands-threatening-food-securityin-the-philippines/).

Rice is our staple food and considered as the barometer of food security. If rice is available in the household, that household can be considered food secured. This is especially for true for the low income groups. The implications of land conversion were studied in depth and policy measures to ensure sustainable land use while safeguarding food security were explored in this short paper.

Problem Statement

The unregulated and often unchecked conversion of prime agricultural lands raises serious concerns:

1. The decrease in ricelands leads to lower domestic rice output, increasing dependence on imports.

2. The Philippines has a rice production deficit up to 30 % million metric tons last year 2024 and 25% for the current year 2025 from mere 5 to 10 % in the past decades after 1990s. Rice shortage , over time is exacerbating our food vulnerability more than climate change.

3. While laws such as the Comprehensive Agrarian Reform Law (CARL) and Agriculture and Fisheries Modernization Act (AFMA) exist, loopholes allow land developers to bypass regulations.

4. Farmers sell their lands due to low farm gate prices, urbanization pressures, and lack of government support, and due to Sec.20 of RA 7160 and the non passage into law of NLUA, jointly accelerates the conversion of agricultural production areas.

Rice Land Conversion Trends

Between 1991 and 2024, an estimated 520,000 hectares of rice lands have been converted. Provinces like Bulacan, Cavite, and Laguna have experienced massive agricultural land losses due to urban expansion.Land reclassification by local government units (LGUs) has contributed significantly to the decline.

Central Luzon, the country's rice basket, has seen a 5% decline in farmlands harvested for palay, affecting overall production. Increased reliance on imported rice exposes the Philippines to global market fluctuations, leading to higher rice prices and economic instability.

Developers manipulate land conditions, such as turning off irrigation or covering land with soil, to justify conversion approvals.LGUs lack oversight mechanisms, leading to excessive land reclassification.

The rapid conversion of prime rice lands threatens the country's food security. Without urgent policy reforms, rice production will continue to decline, forcing greater reliance on imports. Strengthening land use regulations, providing incentives for farmers, promoting sustainable urban planning, and improving monitoring mechanisms will help balance development with agricultural sustainability, ensuring that future generations have access to affordable and locally produced rice.

Some Policy Recommendations

To address land conversion and protect food security, the following measures are proposed:

1. Strengthen Land Use Regulations by enacting into law the National Land Use Act (NLUA) – This long-pending bill will establish a comprehensive framework for land use planning, ensuring agricultural lands are protected.

2.Amend RA 7160 by modifying Section 20 to impose stricter limits on land reclassification by LGUs, requiring national government approval for conversions beyond a certain threshold. Adopt Xi Jinping of China who ordered a STOP on rice lands conversion for what ever reason.

Enforce AFMA's Strategic Agriculture and Fisheries Development Zones (SAFDZ) – Prime agricultural lands should be legally designated for food production.

As they say, we do not need to re-invent the wheel. The Philippines can adopt *Red Line Policy for Farmland Protection of China*. China maintains a red line of 1.8 billion mu (about 120 million hectares) of farmland to prevent excessive land conversion. Unauthorized conversion of permanent basic farmland is strictly prohibited. The policy was complemented by rice support policies centered on a minimum procurement price to encourage rice production since 2004. These policies have led to an increase in rice acreage, helping maintain national food security.

Also, China promoted modern agricultural production while balancing land conservation. Efforts include better land registration processes to protect farmers' property rights.

2. Give Economic Incentives for Farmers by providing subsidies and low-interest loans to rice farmers to discourage land conversion. Offer tax incentives to agricultural landowners who retain their lands for farming. And, establish a Rice Land Protection Fund to compensate farmers for maintaining food production areas.

3.Encourage vertical development to minimize the need for land expansion by requiring urban planners to include protected agricultural zones within development projects. And, strengthen community-based land management programs to ensure sustainability.

4. Improve Monitoring & Enforcement.From hereon, make a law criminalizing un authorized land conversion starting 2.0 hectare and above as the welfare of future generation is at stake.

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Increase the penalties for illegal land conversion of say).5ha to 2.0 hectares , including fines and permit revocations.

Outright dis approval of Land reclassification requests of prime irrigated rice lands as we have reached the threshold limit for our rice security.

Use GIS mapping technology to monitor agricultural land conversion trends (sugarcane, coconut lands etc.)

. Appendix B .The Rice Tariffication Law and Its Impact on Filipino Farmers

The Rice Tariffication Law (Republic Act 11203) was enacted in 2019 to liberalize rice imports by removing quantitative restrictions and replacing them with tariffs. The law aimed to stabilize rice supply and prices for consumers while generating funds to support local farmers. However, despite its intended benefits, the law has negatively impacted Filipino rice farmers, leading to declining farmgate prices, reduced competitiveness, and financial instability.

Objectives of the Rice Tariffication Law

The law was designed to:

Ensure stable rice supply by allowing private traders to import rice freely.

Lower rice prices for consumers by increasing market competition.

Generate funds through tariffs to support farmers via the Rice Competitiveness Enhancement Fund (RCEF).

While these objectives were meant to balance consumer affordability and farmer welfare, the actual implementation has led to severe unintended consequences.

Negative Impact on Rice Farmers

a. Declining Farmgate Prices

One of the most devastating effects of the law has been the sharp decline in palay (unmilled rice) prices. Before the law, farmgate prices ranged between P20-P25 per kilogram, but after its implementation, prices dropped to as low as P12-P15 per kilogram. This drastic reduction has significantly cut farmer incomes, making rice farming less profitable.

b. Unregulated Rice Imports Flooding the Market

The law removed import restrictions, allowing private traders to bring unlimited volumes of rice into the country. As a result:

Cheaper imported rice flooded the market, forcing local farmers to sell at lower prices to compete.

Local rice production declined, as farmers struggled to sustain profitability.

Dependence on imports increased, making the country vulnerable to global trade fluctuations.

c. Weak Implementation of Farmer Support Programs

The Rice Competitiveness Enhancement Fund (RCEF) was supposed to provide P10 billion annually to support farmers through mechanization, seed distribution, and training programs. However:

Many farmers did not receive adequate assistance, leaving them unable to compete with imported rice.

The funding distribution was slow and inefficient, failing to address immediate farmer needs.

Lack of direct cash assistance meant farmers had no immediate financial relief from price drops.

d. Increased Land Selling and Agricultural Decline

Due to low profitability, many farmers opted to sell their rice lands rather than continue cultivation. This trend has led to:

Shrinking rice production areas, worsening the rice deficit.

Conversion of farmlands into commercial and residential developments.

Long-term threats to food security, as fewer farmers remain in the industry.

Economic and Food Security Risks

a. Over-Reliance on Imports

While the law made rice more affordable for consumers, it increased dependence on foreign suppliers. This poses risks such as:

Price volatility in the global market, affecting local rice affordability.

Supply chain disruptions, especially during geopolitical conflicts or trade restrictions.

Loss of self-sufficiency, making the Philippines vulnerable to external economic pressures.

b. Weakening of the Local Rice Industry

The decline in local rice production due to low farmer motivation and land conversion threatens the long-term sustainability of the industry. If this trend continues:

The Philippines may lose its ability to produce sufficient rice domestically.

Farmers may shift to other crops or industries, further reducing rice output.

The country may face food security crises if import sources become unstable.

Policy Recommendations

To mitigate the negative effects of the Rice Tariffication Law, the government must implement corrective measures:

a. Establish a Minimum Palay Floor Price

Set a P25/kg minimum farmgate price to ensure farmer profitability to star this year 2025. It must be review, in consultation to the farmers every start of cropping year.

Strengthen government rice procurement programs to stabilize prices.

b. Regulate Rice Imports

Implement import quotas to prevent market oversaturation.

Prioritize local rice production before allowing excessive imports.

c. Improve Farmer Support Programs

Ensure efficient distribution of RCEF funds.

Provide direct cash assistance to farmers affected by price drops.

d. Strengthen Land Use Policies

Prevent unregulated farmland conversions.

Pass and enforce the National Land Use Act to protect agricultural areas.

e. Promote Sustainable Rice Farming

Invest in mechanization and climate-smart agriculture.

Encourage crop diversification to reduce reliance on rice.

Reflection and synthesis

While the Rice Tariffication Law (RTL)was intended to stabilize rice supply and prices, its implementation has disproportionately burdened Filipino rice farmers. The decline in farmgate

prices, unregulated imports, weak farmer support programs, and increased land selling have weakened the local rice industry, threatening food security and economic stability.

To correct these issues, the government must reassess import policies, establish price protections, strengthen farmer assistance programs, and enforce land-use regulations. Without urgent policy reforms, the Philippines risks losing its rice self-sufficiency, making it permanently dependent on imports.

Legally abolish RTL by crafting a new law titled "The rice industry sustainable development Act (RISDA) of 2026 "

Appendix C. Policy Proposal: Strengthening Agricultural Insurance for Food Security in the Philippines

Agriculture remains a vital sector in the Philippines, with rice as the staple food for millions. However, farmers face increasing risks due to climate change, pests, diseases, and land conversion. .Philippines' agricultural insurance system provides only partial coverage, leaving farmers vulnerable to financial instability. The Philippine agricultural insurance system must be reformed to provide full compensation for crop losses, ensuring farmers remain financially stable and food security is protected. By expanding coverage, increasing subsidies, and streamlining processes, the government can create a resilient agricultural sector, safeguarding farmers and ensuring national food security.

This policy proposal outlines comprehensive crop insurance, protecting farmers and securing national food supply.

The current situation

The current Philippine Crop Insurance Corporation (PCIC) system presents several challenges:Limited Coverage – PCIC covers rice, corn, high-value crops, livestock, and fisheries, but compensation does not always match actual losses.

Low Farmer Enrollment – Many farmers lack awareness of insurance programs or struggle with complex application processes.

Delayed Payouts – Farmers often experience long waiting periods before receiving indemnity payments.

Insufficient Government Support – The premium subsidy regime does not fully cover farmers' losses, forcing them to absorb financial burdens.

Lessons from Global Agricultural Insurance Models

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United States Crop Insurance Program.Farmers receive full compensation for crop losses due to natural disasters.The Federal Crop Insurance Program is heavily subsidized, ensuring affordability for farmers.

European Union Agricultural Insurance.Government subsidies ensure farmers receive full value for lost crops.Climate-related agricultural damages are covered under national insurance schemes.

Challenges in the Philippine System

PCIC provides partial compensation, leaving farmers financially vulnerable.

Private sector involvement in agricultural insurance remains limited.

Policy Recommendations for the Philippines

Expand Insurance Coverage.Ensure full compensation for crop losses, similar to the U.S. and EU models.

Include climate-related damages in insurance policies to protect farmers from extreme weather events.

Strengthen private sector participation to improve insurance accessibility.

Increase Government Subsidies

Raise premium subsidies to cover 100% of crop losses, ensuring farmers do not suffer financial setbacks.

Provide direct financial assistance to smallholder farmers affected by disasters.

Encourage banks to offer agricultural insurance as part of loan packages.

Streamline Application & Payout Processes

Reduce bureaucratic delays to ensure timely financial assistance.

Implement digital platforms for faster insurance claims processing.

Improve transparency in insurance payouts to prevent fraud and inefficiencies.

Appendix D. Rice Industry Sustainable Development Act (RISDA) of 2025

An Act to Promote the Sustainable Development of the Rice Industry to Ensure Food Security and Self-Sufficiency in the Country

Preparatory Statement

Rice is the staple food of the Philippines, sustaining millions of households across the nation. As the primary source of carbohydrates for Filipinos, rice consumption patterns directly impact national food security. Over the years, the country has faced challenges in rice production due to climate change, land conversion, resource mismanagement, and global market fluctuations. Despite efforts to boost agricultural productivity, the Philippines remains partially reliant on rice imports, exposing its food security to external vulnerabilities.

To achieve rice self-sufficiency, ensure the economic viability of local farmers, and secure a resilient food supply, there is an urgent need for comprehensive and sustainable policy intervention. The Rice Industry Sustainable Development Act (RISDA) of 2025 seeks to address these concerns by implementing strategies for increased production, improved resource management, climate adaptability, and market stability. The Act will provide institutional support to farmers, advance research and development, and introduce sustainable farming techniques to enhance rice yield while preserving the environment.

The RISDA of 2025 is designed to strengthen the rice industry through modernized practices, investment in rural infrastructure, and incentives for farmers who adopt sustainable methods. By prioritizing local rice production, the country can reduce dependency on imports and protect itself against international price volatility. Furthermore, a stable rice supply ensures that food security remains intact, reinforcing economic stability and national resilience. As rice is a fundamental component of Filipino households, its sufficiency serves as a reliable indicator of overall food security.

Rice Industry Sustainable Development Act (RISDA) of 2025

An Act to Promote the Sustainable Development of the Rice Industry to Ensure Food Security and Self-Sufficiency in the Country, Providing for Institutional Support, Research and Development, and Incentives for Farmers, and for Other Purposes

SECTION 1. Short Title

This Act shall be known as the Rice Industry Sustainable Development Act (RISDA) of 2025.

SECTION 2. Declaration of Policy

The policy of the State is to promote and sustain the rice industry to ensure food security, achieve rice self-sufficiency, and enhance the welfare of Filipino farmers. The State recognizes rice as a staple food and a barometer of food security, necessitating sustainable production

strategies, climate-resilient practices, and institutional support to protect the industry from external vulnerabilities.

SECTION 3. Objectives

This Act aims to: a) Strengthen the country's rice industry through modernized, sustainable, and climate-resilient agricultural practices; b) Reduce reliance on rice imports and enhance local production capacity; c) Provide financial, technical, and infrastructural support to rice farmers; d) Promote research and development to improve rice yield, quality, and sustainability; e) Establish mechanisms for rice price stability and fair market competition; and f) Ensure environmental sustainability in rice farming through responsible land and water management.

Section 4. Definition of Terms

SECTION 5. Creation of the National Rice Sustainability Council

To oversee the implementation of this Act, a National Rice Sustainability Council (NRSC) shall be established under the Department of Agriculture (DA). The NRSC shall be tasked with: a) Developing a National Rice Industry Roadmap; b) Coordinating efforts among government agencies, private stakeholders, and local farmers; c) Monitoring and evaluating rice production, supply, and food security status; and d) Implementing policies to achieve rice self-sufficiency.

SECTION 6. Incentives for Rice Farmers

The government shall provide incentives to rice farmers who adopt sustainable and climateresilient farming techniques, including but not limited to: a) Subsidized access to modern agricultural equipment; b) Low-interest credit and financial assistance; c) Technical training and capacity-building programs; and d) Access to research-based innovations in rice farming.

SECTION 7. Research, Development, and Innovation, Infrastructure

a)The government, in partnership with research institutions and universities, shall invest in the development of high-yield, climate-resilient rice varieties, sustainable farming techniques, and technological advancements to improve rice production efficiency.

b)The government shall prioritize the construction and maintenance of irrigation systems, postharvest facilities, storage units, and farm-to-market roads to facilitate rice production, distribution, and accessibility.

SECTION 8. Market and Price Stabilization Measures

To ensure the stability of rice supply and pricing, the National Food Authority (NFA) shall be empowered to regulate rice pricing, prevent market exploitation, and implement mechanisms that safeguard both consumers and farmers. The following measures shall be undertaken:

8.1 Establishment of Floor Price for Palay

a) The NFA shall determine and enforce a minimum farmgate price (floor price) for palay, ensuring that farmers receive a fair return for their produce. b) The floor price shall be set annually, based on consultations with farmer cooperatives, agricultural economists, and market analysts, taking into consideration production costs, inflation rates, and supply-demand dynamics. c) The NFA shall procure palay from farmers at the established floor price during harvest seasons, thereby shielding them from predatory pricing by private traders. d) The government shall allocate funds to support price stabilization operations, ensuring that the NFA has sufficient capacity to buy palay when market prices fall below the set threshold.

8.2 Implementation of the Quedan System

a) The NFA shall administer a quedan system, where rice farmers may deposit palay in NFAaccredited warehouses in exchange for warehouse receipts (quedans), which serve as collateral for financial assistance. b) Farmers holding quedans shall be eligible for low-interest loans from government financial institutions, allowing them liquidity while waiting for favorable rice market conditions. c) The quedan system shall also enable farmers to sell their palay at the most advantageous time, preventing price manipulation by middlemen and ensuring their economic viability. d) The NFA shall regulate the storage and release of rice stocks under the quedan system to maintain supply stability and prevent artificial scarcity.

8.3 Rice Buffer Stock Management

a) The NFA shall maintain a national rice buffer stock for at least 70 days for emergency situations such as calamities, supply disruptions, and price spikes. b) The buffer stock shall be periodically replenished through domestic procurement and, if necessary, through responsible importation to safeguard national food security. c) The NFA shall establish regional rice reserves to ensure quick distribution in disaster-prone areas, minimizing food insecurity in times of crisis.

8.4 Prevention of Price Manipulation, Hoarding and price gouging

a) The government shall impose strict penalties on entities engaging in rice hoarding, price manipulation, and unjustified profiteering. b) The NFA, in coordination with the Department of Trade and Industry (DTI) and law enforcement agencies, shall conduct regular market surveillance to detect anomalies in rice pricing and supply. c) Licensed rice traders, wholesalers, and retailers shall be required to submit periodic inventory reports to ensure transparency in rice distribution.

8.5 Consumer Protection and Price Monitoring

a) The NFA shall publish regular price bulletins, informing the public of government-mandated rice prices and ensuring that retail markets adhere to fair pricing. b) The government shall establish hotlines and digital platforms where consumers can report violations related to price gouging, hoarding, or other unethical practices in the rice trade. c) The Department of Agriculture and the NFA shall launch public awareness campaigns to educate consumers on fair rice pricing, market trends, and food security initiatives.

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8.1 Establishment of Floor Price for Palay

a) The NFA shall determine and enforce a minimum farmgate price (floor price) for palay that enables farmers to earn a net income of ₱50,000 per hectare per crop, based on a yield of 5 tons per hectare. b) The floor price shall be adjusted accordingly to reflect increases in grain yield, ensuring that farmers benefit proportionally from higher productivity. c) The floor price shall be set annually, based on consultations with farmer cooperatives, agricultural economists, and market analysts, taking into consideration production costs, inflation rates, and supplydemand dynamics. d) The NFA shall procure palay from farmers at the established floor price during harvest seasons, thereby shielding them from predatory pricing by private traders. e) The government shall allocate funds to support price stabilization operations, ensuring that the NFA has sufficient capacity to buy palay when market prices fall below the set threshold.

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8.6 Rice Buffer Stock Management

The National Food Authority (NFA) shall maintain a minimum rice buffer stock equivalent to 90 days of national consumption to safeguard against supply disruptions, price volatility, and emergency situations such as natural disasters and economic shocks. b) The buffer stock shall be periodically replenished through domestic procurement, ensuring that locally produced rice

remains prioritized in national reserves. c) If necessary, the NFA may engage in responsible importation to supplement domestic stocks, ensuring food security without undermining local farmers. d) The NFA shall establish regional rice reserves to ensure quick distribution in disaster-prone areas, minimizing food insecurity in times of crisis.

International Benchmarking of Buffer Stock Practices

The 90-day buffer stock requirement aligns with international best practices observed in major rice-producing countries:

India maintains a buffer stock of approximately 38 million metric tons, ensuring food security and price stability

Thailand and Vietnam, both leading rice exporters, adjust their buffer stocks based on domestic consumption and export commitments

.Pakistan regulates its rice reserves to stabilize domestic supply and pricing, particularly in response to global market fluctuations

SECTION 10. Funding and Appropriations

The budget necessary for the implementation of this Act shall be sourced from the General Appropriations Act (GAA) and other relevant funds as determined by Congress. The Philippines must significantly boost agricultural R&D investment (1% of GDP)) to sustain rice production and food security. By increasing funding, adopting modern technologies, and developing climate-resilient varieties, the country can enhance self-sufficiency and reduce its reliance on imports. Strengthening government-private sector collaboration in R&D will ensure that farmers benefit from scientific advancements, securing long-term food sustainability.

SECTION 11. Implementing Rules and Regulations

Within ninety (90) days from the enactment of this Act, the Department of Agriculture, in consultation with relevant stakeholders, shall formulate and promulgate the implementing rules and regulations necessary for its execution.